IN THE CLAIMS:

1.   (Previously presented)   A computer implemented method for annotating the surface of a computer model having a set of computer model vertices and computer model polygons, wherein the annotations comprise line segments and are specified as geometry in the form of a set of annotation vertices and annotation edges, comprising the steps of:

projecting two or more annotation vertices, being projected vertices, of an annotation onto the surface of the model, the annotation having annotation edges that connect pairs of the annotation vertices;

selecting a cutting plane between a pair of the projected vertices, in which the cutting plane is selected by one of a) the pair of projected vertices and a midpoint of the relevant annotation edge and b) the pair of projected vertices and a normal to the surface of the model at one or more of the projected vertices;

cutting the surface of the model with the cutting plane, the plane intersecting the model on a cutting line, and

reconnecting the projected vertices on the surface of the model along an approximation to the cutting line by an annotation reconnection process that sequentially connects at least two line segments within the computer model polygons to produce the projection of the respective annotation edges on the model.

2.   (Original)   A method as in claim 1, where if the projected vertices and the midpoint of the annotation edge are collinear and the plane is defined by

containing the two proposed vertices and a normal to the surface of the model at one or more of the projected vertices.

3.   A method as in claim 1, where the projected vertices are projected on the surface within a tolerance by snapping.

4.   (Canceled)

5.   (Previously presented)   A computer system that annotates a surface of a computer model having a set of computer model vertices and computer model polygons, wherein the annotations comprise line segments and are specified as geometry in the form of a set of vertices and edges, comprising:

a processor to execute a program of instructions stored in a memory of the computer;

a memory to store a program of instructions for performing a method for annotating a surface of a computer model and the data defining the geometric model;

a graphics processor and a display to display an image of the computer model and the annotation;

means for projecting two or more annotation vertices, being projected vertices, of an annotation onto the surface of the model, the annotation having annotation edges that connect pairs of the annotation vertices;

means for selecting a cutting plane between a pair of the projected vertices, in which the cutting plane is selected by one of a) the pair of projected vertices and a midpoint of the relevant annotation edge and b) the pair of projected vertices and a normal to the surface of the model at one or more of the projected vertices;

means for cutting the surface of the model with the plane, the plane intersecting the model on a cutting line, and

means for reconnecting the projected vertices on the surface of the model along an approximation to the cutting line by an annotation reconnection process that sequentially connects at least two line segments within the computer model polygons to produce the projection of the respective annotation edges on the model.

6. (Previously presented) A computer product having a program comprising instructions which when executed on a computer perform a process for annotating the surface of a computer model having a set of computer model vertices and computer model polygons, wherein the annotations comprise line segments and are specified as geometry in the form of a set of vertices and edges, comprising the steps of:

projecting two or more annotation vertices, being projected vertices, of an annotation onto the surface of the model, the annotation having annotation edges that connect pairs of the annotation vertices;

selecting a cutting plane between a pair of the projected vertices, in which the cutting plane is selected by one of a) the pair of projected vertices and a midpoint of the relevant annotation edge and b) the pair of projected vertices and a normal to the surface of the model at one or more of the projected vertices;

cutting the surface of the model with the plane, the plane intersecting the model on a cutting line, and

reconnecting the projected vertices on the surface of the model along an approximation to the cutting line by an annotation reconnection process that sequentially connects at least two line segments within the computer model polygons to produce the projection of the respective annotation edges on the model.

7.   (New)   A computer implemented method for annotating the surface of a computer model having a set of computer model vertices and computer model polygons, wherein the annotations comprise line segments and are specified as geometry in the form of a set of annotation vertices and annotation edges, comprising the steps of:

projecting two or more annotation vertices, being projected vertices, of an annotation onto the surface of the model, the annotation having annotation edges that connect pairs of the annotation vertices,

selecting a cutting plane between a pair of the projected vertices, in which the cutting plane is selected by one of a) the pair of projected vertices and a midpoint of the relevant annotation edge and b) the pair of projected vertices and a normal to the surface of the model at one or more of the projected vertices;

cutting the surface of the model with the cutting plane, the plane intersecting the model on a cutting line, and

reconnecting the projected vertices on the surface of the model along an approximation to the cutting line by an annotation reconnection process that sequentially connects at least two line segments within the computer model polygons to produce the projection of the respective annotation edges on the model; wherein said step of projecting annotation vertices comprises snapping a projected vertex to one of a nearest surface vertex and a nearest surface edge when said nearest surface vertex or nearest surface edge is within a tolerance value, said projected vertex remaining where it is projected when said nearest surface vertex or nearest surface edge is not within said tolerance value, whereby the result of the annotation reconnection process differs from a precise representation of the projection of the annotation onto the surface of the model and does not have line segments with a length within said tolerance value.

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